IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventors	: Mitsuo Kimura	Docket No.: JFE-06-1012
	: Takanori Tamari	
	: Yoshio Yamazaki	
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Title	: HIGH STRENGTH STAINLESS	Confirmation No.: 5904
	: STEEL PIPE EXCELLENT IN CORROSION	
	: RESISTANCE FOR USE IN OIL WELL	
	: AND METHOD FOR PRODUCTION	
	: THEREOF	

DECLARATION OF MITSUO KIMURA

Commissioner for Patents
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Sir:

I, Mitsuo Kimura, declare that:

I reside at Aichi, Japan.

My educational background is summarized as follows:

April 1975: I entered the Fourth Course of the Osaka University.

March 1979: I graduated from Osaka University.

April 1979: I entered the Graduate School of Engineering, Osaka University.

March 1981: I graduated from the Graduate School of Engineering, Osaka University.

My work experience is summarized as follows:

I was employed by Kawasaki Steel Co. from April 1981 to 2003 as a material and corrosion researcher. I was engaged in research concerning the development of linepipe and OCTG.

From April 2003 to March 2008, I was employed by JFE Steel Research Laboratory as a material and corrosion researcher, wherein I was engaged in research pertaining to the development of linepipe and OCTG.

I have read the above-identified application, the Official Action dated August 11, 2009 and the Advisory Action dated January 14, 2010.

The Advisory Action acknowledges remarks made in the Applicants' Response dated December 17, 2009, but notes that such remarks do not constitute factual evidence since they are not in Declaration form. Those remarks are therefore presented below inasmuch as those remarks distinguishing Claims 24-34 over JP '009 are indeed factual.

When equation (2) in the Applicants' Claim 24 and equation (1) in Claim 1 of JP '009 are compared, although there are some differences in their coefficients, they are almost the same. In other words, according to equation (2) in Claim 24, the coefficient of C is 43.5, Mn is as high as 0.4, N is as low as 9, whereas Cu is 0.3 which is not disclosed in JP '009 and, therefore, the values calculated by equation (2) in Claim 24 inevitably are lower than the values calculated by equation (1) in Claim 1 of JP '009. In the attached comparison table, A* of Steel No. K in Table 1 of JP '009 is 11.52. In contrast, the value calculated by using equation (2) in Claim 24 is 11.457 — which is rather lower.

Therefore, equation (2) in Claim 24 and the left side member of equation (1) in Claim 1 of JP '009 can be regarded as substantially the same. That is to say, JP '009 employs component equation (1) for the purpose of securing high strength and toughness. To prevent generation of ferrite according to equation (1) in JP '009, the maximum value is limited to 10 in equation (1). Equation (1) is set to be not more than a certain amount (herein, 10), wherein the value is obtained from a calculation consisting of ferrite forming elements (Cr, Mo and Si) minus

austenite forming elements (C, N, Ni and Mn), whereby the components of the steel are controlled within a range with which the ferrite is able to be prevented from forming. In fact, of the Examples, ferrite is included in Steel Nos. K, N and P, which are outside the range of equation (1) of JP '009 as shown in Table 2 of JP '009. The structure of the Applicants' steel wherein the value of equation (1) is 10 or less is composed of tempered martensite and austenite as shown in Table 2. In other words, seeing that the steel satisfies equation (1) of JP '009, the structure of the steel is tempered martensite and austenite and therein no ferrite is included.

On the other hand, Claim 24 recites an equation which is similar to equation (2) of JP '009 (because values are obtained by experiments, coefficients slightly vary as the basic component range changes, however, the concepts are fundamentally the same), and the minimum value (herein, 11.5) is specified so that ferrite of a fixed amount becomes precipitated. In other words, equation (2) of Claim 24 results in a value wherein the value is obtained from a calculation consisting of ferrite forming elements (Cr, Mo and Si) minus austenite forming elements (C, N, Ni and Mn) to thereby control the component of steel to be at least a·certain amount (herein, 11.5). This is an opposite approach from the approach of JP '009. Because ferrite is positively recited in Claim 24, the composition is limited so that. Without a doubt, at least a fixed amount of ferrite is precipitated.

This is articulated in the Applicants' specification in paragraph [0020], wherein if the value of left side member of equation (2) in Claim 24 is less than 11.5, precipitation of the ferrite phase becomes insufficient and hot-workability is insufficient, whereby manufacturing the seamless steel pipe becomes difficult. From the foregoing, it is understood that the left side member of equation (2) in Claim 24 is prescribed as 11.5 or more whereas the left side member

of equation (1) of Claim 1 of JP '009 is prescribed as 10 or less. As a result, the ranges of the equations specified therein are completely opposite.

Further, formation of ferrite is suppressed in JP '009 and as is in column 5 of page 4 in paragraph [0018] pertaining to an explanation of the reason for the addition of Mo, the formation of ferrite is prevented on the basis of common knowledge that formation of δ ferrite exerts a harmful influence. Out of the inventive examples of JP '009 in Table 2, none of Steel K, N and P, wherein ferrite is formed satisfy the required feature and the object of JP '009 was devised with the thought of suppressing formation of ferrite on an extension of conventional knowledge.

Therefore, steels which satisfy the equation of JP '009 do not satisfy the equation of Claim 24. From the foregoing, the steels recited in Claim 24 and those in JP '009 are completely different.

The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and thus such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 2/8/2010

Mitsuo Kimura, Co-inventor